Installation Manual

for

i-GATE 100

GSM Cellular Gate opener and GSM alarm signalling device.

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1. Introduction

This device is a multi-purpose device which can be used for several applications including…

1) Phone access control of gates, doors or barriers. The unit can store up to 100 telephone numbers. Any of these numbers can call the unit to activate the relay output at no call cost.
2) Alarm signalling device when connected to an alarm system, sensor, beam or other trigger. The unit will call up to 3 telephone numbers in sequence when the call button is pressed. This can be land lines or cell phones or both.

The unit will operate on quad band cellular frequencies operating in most countries. The frequencies are 850MHz, 900 MHz, 1800MHz, and 1900 MHz. A 3G compatible version is also available for areas where 2G is not supported. Please ask your dealer for details.

2. Tips

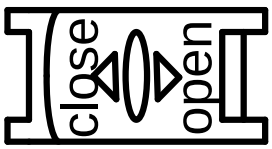
1) Make sure there is adequate reception on site before deciding to install this system. Conduct a site survey and use your mobile phone or third party app to check reception levels first. Choose a SIM card which has good reception levels on site. Low or even medium reception levels are not sufficient.
2) Bench test this device in your workshop. Program it and check it operates before installing on site.

3. SIM Card

Before inserting the SIM card, check the following…

1) The SIM is a 2G SIM for standard models, or a dual 2G / 3G SIM for the 3G version.
2) The SIM must be a standard cell phone type SIM which supports voice and SMS text messages. Data is not required for operation of this device. Do not select a tablet SIM as these only support data, and do not support voice.
3) Check the SIM has credit, and can make and receive calls in a cell phone first.
4) Ensure the SIM does not have a PIN code lock. If so, disable this in a phone.
5) If the SIM was purchased along with a phone, it may be locked to that phone. Please check the SIM can work in another phone or device. If not, ask your network service provider to unlock it so that it can be used in another device.

You may now insert the SIM card ensuring the power is OFF first.



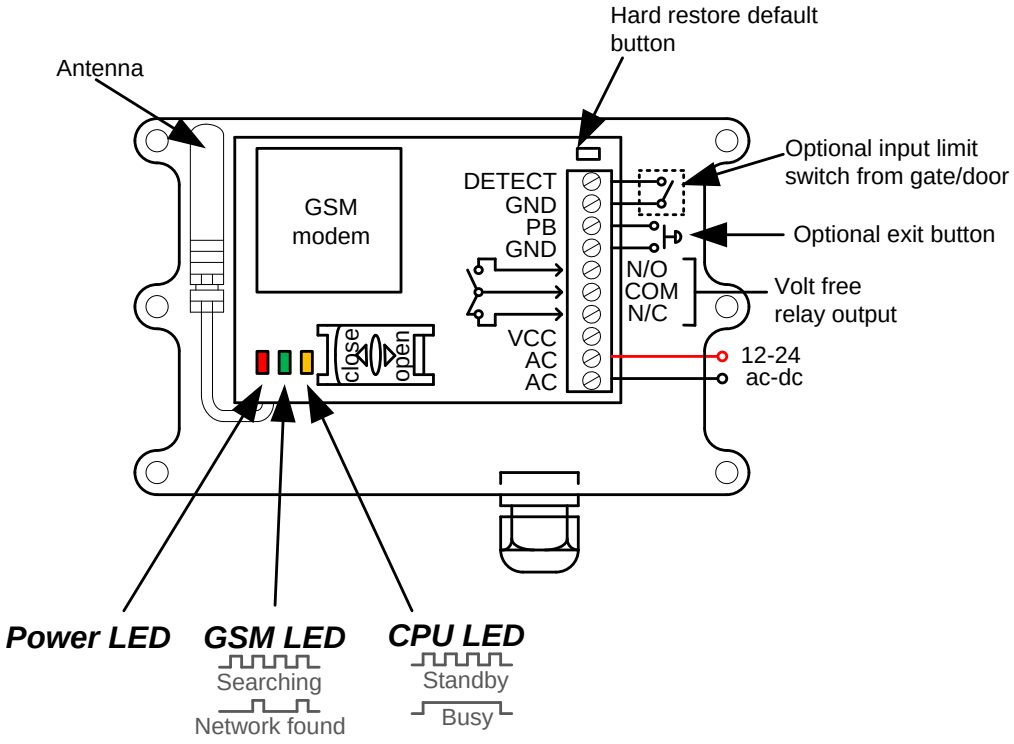
CAREFULLY slide the holder in the open direction and then open the SIM holder door.

Insert the SIM, close the door, and slide in the close direction until it clicks.

4. Wiring

You may now connect power to the unit. The unit can accept 12-24v ac or dc. Please do NOT USE MAINS power, as this will damage the unit and void the warranty.

The connections supported by the unit are shown below.



Tip: Power cable should be less than 3 meters (10 feet). Do not use thin cables such as alarm cable or CAT5 cable to power this unit. The standby current is 45mA, however this increases to 200mA when dialling out, with spikes of current draw up to 2 amps.

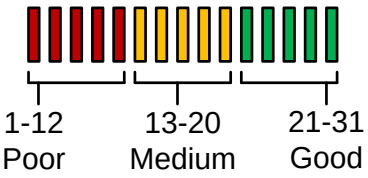
Power up the unit. After 10 seconds or so, the GSM LED should change from a fast flashing frequency to a slow flash, every 3 seconds or so. If this does not happen, power the unit off, and check the SIM card is seated correctly and ensure the steps above regarding the SIM card have been followed.

5. General Programming

The unit is programmed by SMS text message from a cell phone.

Check Reception

Send the SMS ***20#** as shown, to the SIM card number of the device. The unit should reply with the network name and reception level between 1 and 31.



Note: Reception levels below 14 can give problems with the relay operation or the unit will not receive calls. Reception can increase and decrease depending on the weather.

If reception levels are low, take action! Either increase the hei
reception or request a higher gain antenna from your distributor or change to another network which may have better coverage.

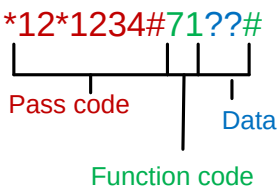
6. Programming as a gate / door opener

This feature allows up to 100 numbers to be stored in memory. Any of these numbers can call the intercom. It will recognise the number, end the call without answering, and activate the output relay, all within a few seconds.

Country Code

First you must tell the unit which country it is operating in. Every country has a country code. You can find your country code on the internet. Some examples are given below..

USA – 1, Canada – 1, UK – 44, Ireland – 353, Germany – 49
Send the following SMS replacing ?? with your country code..
Programing text messages must start with a pass code string, followed by a command, followed by data, and each command is separate in the SMS by #.



Example shown to right is for USA

Adding Caller ID numbers

You may add numbers to memory for the access control. Up to 3 numbers can be sent in the same SMS together. Begin with the pass code, and separate each number with # as follows. Just enter the phone number as you would dial it, do not enter the country code…

***12*1234#72telephonenumber#72telephonenumber#72telephonenumber#**

Important: For USA customers on certain networks, you may need to add the interstate long distance 1 at the beginning of the number.

For example a number 702-999-9999 may need stored as 1-702-999-9999. Please try it with and without the long distance 1 to check which works.

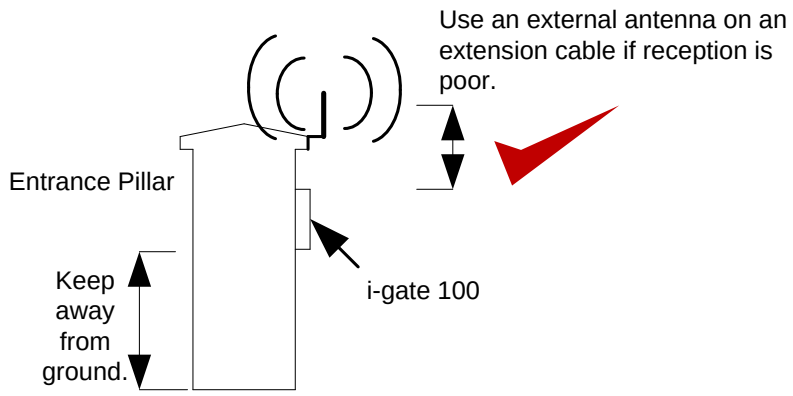
The example shows a single number being stored. The unit will reply with an OK message.

Please note: If a number is not stored in the correct format, when that particular phone calls the unit, the unit will answer the call with a bleep. In this case it is waiting for a pass code instead.

You may test the caller ID feature by calling the device from a phone which has been stored. The unit should ring only once or twice, hand up and trigger the relay. The relay is default for a 1 second momentary click. If you need to change this, please refer to the full programming table.

7. Installing as a Gate / Door Opener

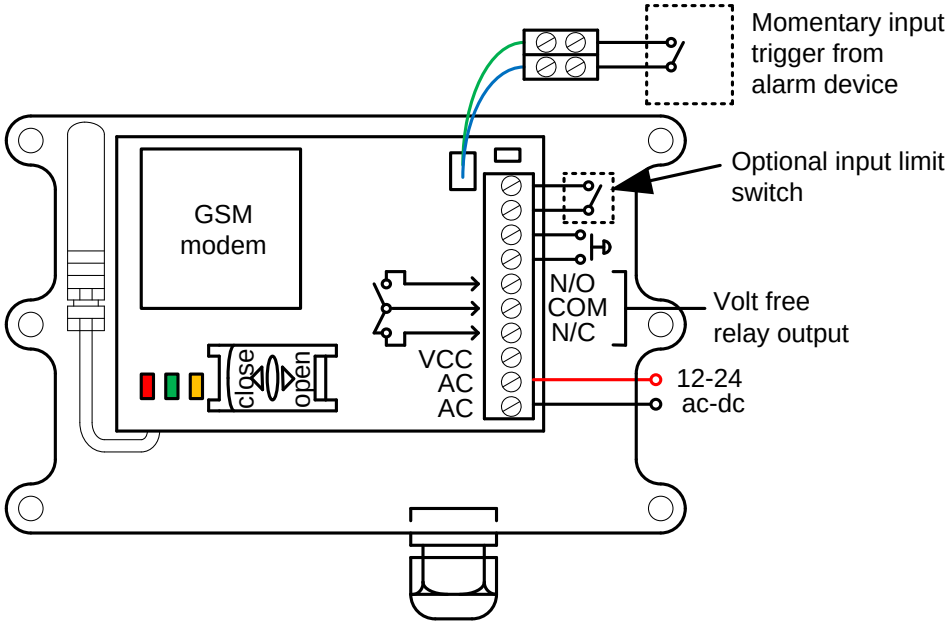
The enclosure is IP67 weather proof rated, and for best reception, the device should be installed outdoors, high off the ground, away from metal objects and shrubs.
If you are using this for a barrier control, then you MUST use an external antenna OUTSIDE the barrier enclosure, as the unit will not have reception otherwise.



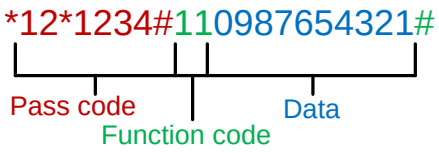
Connect the N/O and COM of the output relay on the device to the Start command and common of your gate / barrier controller PCB

8. Programming as an Alarm Dialler

If you are using this device as an alarm signalling device, you will need to connect an input trigger to the terminals shown below. This input trigger should be a momentary volt free trigger from an alarm panel or sensor device.



You may send a SMS to tell the unit which numbers to dial when the alarm is triggered…



This SMS will tell the unit to dial the example number shown. The unit then sends a SMS reply OK showing the number just sent.

3 numbers can be sent in the same SMS as follows…

***12*1234#11telephonenumber1#12telephonenumber2#13telephonenumber3#**

TIP: Save the sim card number of the device into the users phone as a meaningful name such as “ALARM SYSTEM” or “MY HOME ALARM” for example.

Calling time

This is the time the unit will spend attempting to call a number before aborting the call and calling the next number on the list. It is very useful to adjust this time so that if there is voicemail or answer machine on a number, that the intercom aborts the call before the machine picks up, otherwise the unit will think the call is answered and never call the next number. To adjust this time, send the following SMS…

***12*1234#52??#** (Where ?? = time in seconds 10-99)
The example on the phone shows the time being set to 20 seconds.

9. Complete list of parameters

The table below show the complete list of features in the cellular part of the intercom.

Code	Description	Default
	12.1 Changing pass codes	
01????#	Change programming password	1234
02????#	Change access control password. This password allows entry by phone for users not stored in Caller ID list.	5678
11????#	Store first number to dial when call button is pressed	N/A
12????#	Store second number to dial when call button is pressed	N/A
13????#	Store third number to dial when call button is pressed	N/A
1n*#	Delete a dial out number. n = 1, 2 or 3.	N/A
	12.3 Timings	
51?#	Relay time. Where ? = seconds, 1-9999.	1 sec
52??#	Calling time, adjust this to avoid voicemail picking up a call (10-99 secs)	20 secs
	12.4 Scheduled service calls	
77number#	Store a service number to receive a scheduled call or SMS from the unit. Useful for SIM cards which are not often used to prevent switch off by the network provider.	N/A
57??#	Set the time schedule for the intercom to make a scheduled call or SMS to the service number. 00-60 day time schedule. 00 = no call or SMS.	00
58?#	Choose between making a scheduled call or scheduled SMS. 1 = SMS. 2 = call.	1

77*#	Delete the stored service number	N/A
12.5 Caller ID features		
71???#	Store country code. 1-3 digits.	N/A
72number#	Store caller ID number. Max 14 digits.	N/A
73number#	Delete caller ID number.	N/A
73*#	Delete all caller ID numbers	N/A
12.6 Change operation keys		
61?#	Change relay trigger key from * to any other key.	*
63?#	Change relay latch or hold open key from # to any other key.	#
64?#	Change relay unlatch or unhold key from 1 to any other key.	1
12.7 Service & diagnostic messages		
*20#	Check reception level (1-31). (No passcode needed).	N/A
*21#	Check stored numbers. O = dial out number. I = dial in number. E = end of message. (no passcode needed).	N/A
*22#	Check input status and relay status. (No passcode needed)	N/A
12.8 Restore Defaults		
999#	Send with passcode string to clear all programming.	N/A

Remember to start each message with the passcode string *12*1234# (except for service & diagnostic messages).

10. Using the device as a Gate / Door Opener

The user can call the SIM number of the intercom from their phone. If their number is stored then the device will hand up the call without answering and trigger the gates or door with a momentary trigger.

The user can also send the following SMS text messages to further control the unit..

Trigger Output | Latch Output | Unlatch Output | Check Output

11. Using the APP

The App is available for Android and Iphone devices called **GSM-Gate**.

Note: Before the app can be used, the sim card number and SMS text strings will needed entered in the settings screen.

The default SMS strings are shown in the settings page for your convenience.

Press to trigger gates.

For gates set for automatic closing, press to hold open

For gates set for automatic closing, press to allow the gates to close again.

Information

More buttons..
-Check gate status
-Check signal strength
-Check stored numbers

12.Using the device as an Alarm Dialler

If the device is being used as an alarm dialler, it will call 3 telephone numbers when the alarm is activated. If any number answers the call, then it will not call the next number.
Each number will be called only once.

If the system has been installed in such a way to allow the output relay to control lights or disarm the unit, then the user can press * to momentary trigger the output, # to latch it on, or 1 to unlatch it.

The Same SMS commands used in the previous section to control automatic gates can also be used to larch on, latch off or trigger the alarm in various ways, depending on how it is installed.

The user may also use the control command *22# to check the status of the output in the event that the output is being used to arm or disarm the device.

13.Troubleshooting guide

Q. The unit will not power up. No LEDs on.
A. Check power supply voltage at unit is minimum 11.5V and that the power cable is not more than 3 meters (10 feet).

Q. The unit powers up but the GSM LED is still flashing rapidly.
A. This means the unit is not able to detect the network for some reason.
-Check the SIM card is activated and has calling credit.
-Power off the unit, remove the SIM and check it in a mobile phone to verify it can make a call.
-Check the SIM does not ask for a PIN code when put in a phone. If it does, then disable the PIN code request.
-Check the SIM is a standard GSM SIM, not 3G or 4G only SIM. If you are unsure, contact your SIM card provider to verify. Frequency of operation should be any one of the international quad band standards, 850 / 900 / 1800 / 1900 MHz.
-Check the reception is very good. Poor reception is not sufficient.

Q. The unit calls the first number, but there is not enough time to answer before it diverts to the next number.
A. Increase the no answer time as per programming instructions.

Q. The unit calls the first number but voicemail comes on before it can ring the second number.
A. Decrease the no answer time as per programming instructions.

Q. The caller ID part does not work.
A. Be sure to program the caller ID part under 72 feature. If your number is a private or number withheld, then it will not work.
-Even if you have already programmed a number to receive a call from the unit, if you also want that number to have caller ID access, it must be programmed under the 72 feature also.
-Ensure the number is entered as you would normally dial it from another phone.
-Do not put the country code in front of the number.
-Enter the country code in which the unit is operating in separate under the 71 feature. International callers ringing the intercom may not work.
-For USA customers, did you try entering the number both with and without the long distance 1 before the number?

Q. The * or # key does not work when the unit calls a phone.
A. Check if you can hear the relay clicking at the gate when the * or # key is pressed during a call. If it can be heard, then the system is working, check wiring between the relay and the lock or gate panel. If the relays do not make a clicking sound, then check this feature on a different mobile cell phone or landline. If it works on a different phone, check the settings on the phone in question under DTMF tones.

Failure of DTMF tones to operate correctly is also a symptom of low reception. Check steps above on improving reception. Try pressing the buttons longer when attempting to activate the gates or door.
-Some iphone users may experience trouble using the * key to trigger the gates. In this case, refer to the programming instructions to change the trigger key to any other key.

Q. The system was operating the gates fine, but now it will not trigger the gates.
99% of the time, this is cause by the user accidentally pressing the # key instead of the * key. This latches the output relay permanently on. Send the intercom the following SMS *22#. The intercom should reply with a message detailing the relay status. If it is in normal resting state, the message should read “the relay is OFF. If it has been latched, then the message will state “the relay is ON”. In this case refer to the user guide to read how to unlatch it again.

Q. The unit no longer calls out to phones but I can make a call to it from my phone.
A – Check there is balance on the SIM card.
A – Switch off the power, remove the SIM, put it into a phone, and check that a call can be made from a phone. This will verify if the SIM is still working and in service.